I Claim:

1. A method for increasing light olefin yield during conversion of oxygenates to olefins comprising:

(a) contacting an oxygenate feed in a primary reactor with a non-zeolitic molecular sieve catalyst under first conditions effective to produce a first product comprising light olefins;

(b) separating said first product into said light olefins and a heavy hydrocarbon fraction comprising heavy hydrocarbons;

(c) feeding said heavy hydrocarbon fraction to a second reactor selected from the group consisting of said primary reactor and a separate auxiliary reactor; and

(d) subjecting said heavy hydrocarbon fraction in said second reactor to second conditions effective to convert at least a portion of said heavy hydrocarbons to light olefins.

2. A method for increasing light olefin yield during conversion of oxygenates to olefins comprising:

(a) contacting an oxygenate feed in a primary reactor with a first, non-zeolitic molecular sieve catalyst under first conditions effective to produce a first product comprising light olefins;

(b) separating said first product into said light olefins and a heavy hydrocarbon fraction comprising heavy hydrocarbons;

(c) feeding said heavy hydrocarbon fraction to a separate auxiliary reactor; and

(d) contacting said heavy hydrocarbon fraction with a second molecular sieve catalyst in said separate auxiliary reactor under conditions effective to promote conversion of said heavy

hydrocarbons to light olefins.

3. The method of claim 1 wherein said non-zeolitic molecular sieve catalyst comprises a silicoaluminophosphate.

4. The method of claim 2 wherein said first, non-zeolitic molecular sieve catalyst comprises a silicoaluminophosphate.

5. The method of claim 1 wherein said non-zeolitic molecular sieve catalyst comprises a silicoaluminophosphate selected from the group consisting of SAPO-44, SAPO-34, SAPO-18, AND SAPO-17.

6. The method of claim 2 wherein said first, non-zeolitic molecular sieve catalyst comprises a silicoaluminophosphate selected from the group consisting of SAPO-44, SAPO-34, SAPO-18, AND SAPO-17.

5. The method of claim 2 wherein said second molecular sieve catalyst comprises a zeolite.

6. The method of claim 4 wherein said second molecular sieve catalyst comprises a zeolite.

7. A method for increasing light olefin yield during conversion of oxygenates to olefins comprising:

(a) contacting an oxygenate feed in a primary reactor with a silicoaluminophosphate selected from the group consisting of SAPO-44, SAPO-34, SAPO-18, and SAPO-17, under first conditions effective to produce a first product comprising light olefins;

(b) separating said first product into said light olefins and a heavy hydrocarbon fraction comprising heavy hydrocarbons;

(c) feeding said heavy hydrocarbon fraction to a separate auxiliary reactor; and

(d) contacting said heavy hydrocarbon fraction with ZSM-5 in said separate auxiliary reactor under conditions effective to promote conversion of said heavy hydrocarbons to light olefins.

8. The method of claim 5 wherein said zeolite is ZSM-5.

9. The method of claim 6 wherein said zeolite is ZSM-5.

10. The method of claim 1 wherein said non-zeolitic molecular sieve catalyst comprises a microporous framework comprising pores consisting essentially of a diameter in the range of from about 5 to about 10 Angstroms.

11. The method of claim 2 wherein said first, non-zeolitic molecular sieve catalyst and said second molecular sieve catalyst comprise a microporous framework comprising pores consisting essentially of a diameter in the range of from about 5 to about 10 Angstroms.

12. The method of claim 1 wherein said non-zeolitic molecular sieve catalyst comprises a microporous framework comprising pores consisting essentially of a diameter less than about 5 Angstroms.

13. The method of claim 2 wherein said first, non-zeolitic molecular sieve catalyst comprises a microporous framework comprising pores consisting essentially of a diameter less than about 5 Angstroms.

14. The method of claim 3 wherein said non-zeolitic molecular sieve catalyst comprises a microporous framework comprising pores consisting essentially of a diameter less than about 5 Angstroms.

15. The method of claim 4 wherein said first, non-zeolitic molecular sieve catalyst comprises a microporous framework comprising pores consisting essentially of a diameter less than about 5 Angstroms.

16. The method of claim 1 wherein said heavy hydrocarbon fraction consists essentially of said heavy hydrocarbons.

17. The method of claim 2 wherein said heavy hydrocarbon fraction consists essentially of said heavy hydrocarbons.

18. The method of claim 3 wherein said heavy hydrocarbon fraction consists essentially of said heavy hydrocarbons.

19. The method of claim 7 wherein said heavy hydrocarbon fraction consists essentially of said heavy hydrocarbons.

20. A method for increasing light olefin yield during conversion of oxygenates to olefins comprising:

(a) contacting an oxygenate feed in a primary reactor with a non-zeolitic molecular sieve catalyst under conditions effective to produce a product comprising light olefins;

(b) separating said product into said light olefins and a heavy hydrocarbon fraction comprising heavy hydrocarbons; and

(c) recycling said heavy hydrocarbon fraction to said primary reactor.